UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DISTRICT

JENNIFER PELLOW as Personal Representative of the Estate of NATHAN WESLEY PELLOW,

Plaintiff,

v.

KEVIN BARNHILL, SHANE MCKIBBEN, ROBERT ROY, JOHN ADAMS, and DALE VAN HORN, Jointly and Severally,

Defendants.

Case No: 15-11765

Hon. Terrance G. Berg
Magistrate R. Steven Whalen

EXHIBIT 1

OAKLAND COUNTY MICHIGAN
OFFICE OF THE MEDICAL EXAMINER
L. J. Dragovic, M.D., Chief Medical Examiner
K. Virani, M.D., Deputy Chief Medical Examiner
B. Pacris, M.D., Deputy Medical Examiner
R. Ortiz-Reyes, M.D., Deputy Medical Examiner
C. Loewe, M.D., Deputy Medical Examiner

L. BROOKS PATTERSON, OAKLAND COUNTY EXECUTIVE

PUBLIC SERVICES
R. Gerds, Administrator

AUTOPSY PROTOCOL

NAME OF DECEASED: NATHAN W. PELLOW

CASE NUMBER: 13-4171

GENDER: Male **AGE:** 31 Years **RACE:** White

DATE OF DEATH: August 30, 2013 **TIME:** 12:02 P.M.

PLACE OF DEATH: Hospital

DATE PRONOUNCED: August 30, 2013 **TIME:** 12:02 P.M.

PLACE PRONOUNCED: St. John Macomb Oakland Hospital, Madison Heights

DATE OF AUTOPSY: August 31, 2013 **TIME:** 7:50 A.M.

CAUSE OF DEATH: SUBSTANCE ABUSE

CONTRIBUTORY CAUSE: HYPERTROPHIC CARDIOMYOPATHY; ASPHYXIA BY PHYSICAL RETRAINT

MANNER OF DEATH: ACCIDENT

1200 N TELEGRAPH RD DEPT 438 BUILDING 28 EAST • PONTIAC, MI 48341-0438 • (248) 858-5097 FAX • (248) 452-9173

EXTERNAL EXAMINATION

The nude body is that of a 6'1", 263 pounds, with the abdominal girth of 45.5", large, well-nourished white male reported to be 31 years of age. Rigor mortis is fully developed in the cold body and livor mortis is dorsally distributed and unfixed. The scalp hair is light brown and measuring up to 1 ½" in length. The scalp is without note. The irides are blue, the corneae are clear and the sclerae and conjunctivae are suffused. The earlobes are creased bilaterally and the external ear canals are free of foreign material or abnormal secretions. The nostrils contain dried-up blood tinged fluid only and the nasal skeleton is palpably intact. The lips are without evident injury. Natural dentition is present in the upper and lower jaw. An endotracheal tube is inserted via the oral cavity. A small amount of blood tinged fluid is present in the oral cavity. There are two fresh linear scrapes of the skin of the mid-portion of the right side of the face, the longer measuring ¾" in length. There is a fresh curved linear scrape on the outer aspect of the left side of the chin measuring 1" in length. A broader superficial scrape/brush burn is present on the outer aspect of the skin of the left cheekbone. Another small scrape (less than ¼" in diameter) is present on the outer aspect of the right eyebrow. There is hemorrhage in the left lower eyelid.

The neck is symmetrical and without note except for an intravenous line inserted in its right side. There is a small tattoo in the skin of the back of the neck.

The chest is symmetrical and shows evidence of resuscitation attempt in its mid-chest part. A light brush burn measuring approximately 1 ½" in greatest diameter is noted on the front lower aspect of the right side of the chest. The belly is protuberant. The external genitalia

EXTERNAL EXAMINATION (cont'd): are those of a circumcised adult male type. The posterior torso shows a fresh bruise in the right lower mid-portion of the back. There are fresh brush burn type scrapes in the skin of the left upper back. The anal orifice is without note. The upper extremities show professional tattoos on the outer aspect of the right and left upper arms respectively. There are small, faint patterned scrapes on the radial aspect of the left wrist. No patterned scrapes are noted on the skin of the right wrist area. There are two fresh scrapes on the inner aspect of the skin of the right knee and faint scrapes are observed on the front aspect of the right knee. There are slight superficial scrapes/brush burns noted on the outer aspect of the front of the left knee. A fresh brush burn is observed on the outer aspect of the left ankle. There is no external evidence of trauma except as described above. Finger clubbing and peripheral edema are absent.

INTERNAL EXAMINATION

HEAD: The scalp is reflected after making the usual intermastoid incision and shows moderate subcutaneous hemorrhage in the right parieto-occipital region of the head as well as a mild subcutaneous hemorrhage in the left parieto-occipital region of the head. The calvarium is intact. The external meninges are unremarkable, without epidural or subdural hemorrhage. The 1,461 grams brain is covered by transparent leptomeninges and the cerebrospinal fluid is clear. The arterial vessels at the base of the brain pursue their usual anatomic courses and are patent. The brain appears moderately congested. Old or recent traumatic lesion or other abnormality is not evident externally or on serial coronal sectioning in the fresh state. Transverse sectioning of the brainstem and parasagittal sectioning of the cerebellum reveal no abnormalities. The bones at the base of the skull are without evidence of fracture.

NECK: There is no evidence of injury to the soft tissues or bony structures of the neck. The laryngeal cartilages, the hyoid bone and the cervical spine are intact. The lumen of the larynx and trachea contains an endotracheal tube. There is blood tinged frothy fluid present in the trachea and lower parts of the airway. The mucosa is without note.

BODY CAVITIES: The body cavities are entered in the usual manner. All cavities are free of excess or abnormal fluid accumulation or adhesions. The organs are in their usual anatomic locations. The lungs are expanded. There is no internal evidence of blunt force or penetrating injury to the thoraco-abdominal region.

CARDIOVASCULAR SYSTEM: The 625 grams heart is grossly enlarged with dilated chambers. The epicardium surface is otherwise smooth and glistening. The left ventricle myocardium measures 1.5 cm in thickness and the right ventricle myocardium measures 0.3 cm in thickness. No focal lesion is identified. The tricuspid valve circumference is 15 cm, the pulmonic valve circumference is 10 cm, the mitral valve circumference is 13 cm, and the aortic valve circumference is 7.5 cm. The coronary ostia are patent and the coronary arteries are involved by focally marked atherosclerosis involving the lumen of the left coronary artery and the lumen of the proximal segment of the left anterior descending coronary artery where the luminal compromise reaches 60%. The lumen of the left circumflex coronary artery and the right coronary artery are without evident compromise. The aorta and its major branches are without note. The venae cavae and pulmonary arteries are free of antemortem thrombus.

RESPIRATORY TRACT: The right lung weighs 1,006 grams and the left lung weighs 944 grams. Their pleural surfaces are smooth. The parenchyma is markedly congested and edematous oozing copious amounts of frothy fluid from cut surfaces. The bronchi and their major branches contain blood tinged frothy fluid. No focal lesion is identified.

LIVER, BILIARY TRACT, SPLEEN, PANCREAS AND LYMPH NODES: The 2,556 grams liver has a smooth capsular surface with blunting of its margins. The parenchyma is markedly congested without demonstrable focal lesion. The gallbladder contains approximately 25 mls of bile and the bile passages are patent. The pancreas is without external or sectioned abnormality. The 384 grams spleen is grossly enlarged with intact capsule and friable parenchyma. The portal lymph nodes are prominent. They thymus gland weighs 44 grams.

GENITO-URINARY SYSTEM: The right kidney weighs 200 grams and the left kidney weighs 222 grams. Their capsules strip with ease to reveal smooth cortical surfaces. On sectioning the parenchyma is congested with otherwise preserved cortico-medullary definition and the calyces, pelves and ureters are without note. The urinary bladder contains approximately 120 mls of urine. The mucosa is without gross lesion. The prostate gland is of the usual size and consistency.

GASTRO-INTESTINAL TRACT: The tongue shows fresh contusions. The pharynx and esophagus are unremarkable. The stomach contains approximately 5 mls of dark brown fluid. The mucosa is without note. The duodenum and remainder of the small and large bowels are unremarkable. The appendix is present.

ENDOCRINE SYSTEM: The thyroid, the pituitary and the adrenal glands are unremarkable.

MUSCULOSKELETAL SYSTEM: The skeletal muscle is without note. The long bones of the extremities, the bony thorax, the bony pelvis and the vertebral column are without evidence of fracture.

MICROSCOPIC EXAMINATION:

CENTRAL NERVOUS SYSTEM – Congestion; no pathological diagnosis

HEART – Marked coronary atherosclerosis; myocardium hypertrophy

LUNGS – Congestion; edema; intra-alveolar hemorrhage; anthracosis

LIVER – Mild steatosis; mild focal chronic active hepatitis

KIDNEYS – Congestion; no pathological diagnosis

SPLEEN – Congestion; depleted white pulp

THYROID – No pathological diagnosis

THYMUS – Congestion; involution stage

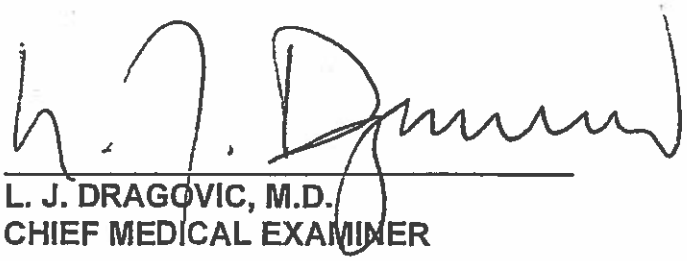
GASTRO-INTESTINAL TRACT/STOMACH – No pathological diagnosis

TONGUE – Fresh contusions

DIAGNOSIS:

I. Substance Abuse
   A. Marked pulmonary congestion and edema
II. Hypertrophic Cardiomyopathy
III. Coronary Atherosclerosis
IV. Asphyxia by Physical Restraint

OPINION: This 31-year-old white male, Nathan Pellow, died as result of substance abuse causing bizarre erratic behavior and necessitating application of physical restraint that resulted in asphyxia. Hypertrophic cardiomyopathy and marked focal narrowing and hardening of the left coronary artery were contributory. There was no evidence of other trauma. In consideration of the circumstances surrounding this death, the results of this postmortem examination and the results of the toxicological analyses the manner of death is accident.



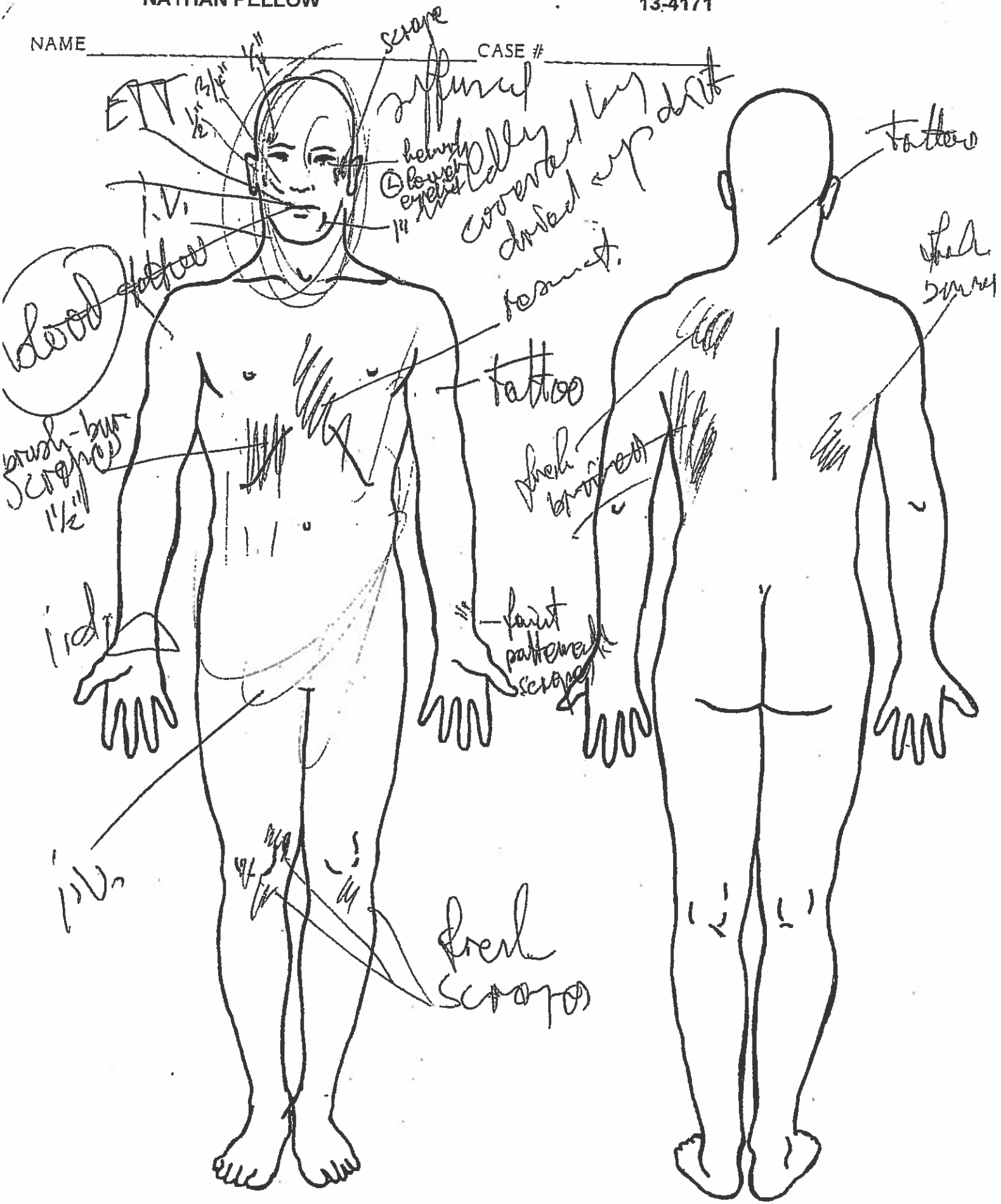
L. J. DRAGOVIC, M.D.
CHIEF MEDICAL EXAMINER

dmc 10/21/2013

OFFICE OF THE MEDICAL EXAMINER

OAKLAND COUNTY

NAME NATHAN PELLOW CASE # 13-4171



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TOXICOLOGY REPORT

NAME: NATHAN PELLOW
CASE # 13-4171

VOLATILE SCREEN

INCLUDES: ACETALDEHYDE, ACETONE, ETHYL ALCOHOL, ISOPROPYL ALCOHOL, METHYL ALCOHOL

REPORT: **FEMORAL BLOOD – None detected**

VITREOUS – None detected

HEART BLOOD DRUG SCREEN

INCLUDES: ACETAMINOPHEN, AMPHETAMINES/METHAMPHETAMINES, ANTIDEPRESSANTS, BARBITURATES, BENZODIAZEPINES, CANNABINOIDS, CARISOPRODOL, COCAINE/COCAINE METABOLITES, CYCLOBENZAPRINE, FENTANYL, METHADONE, METHYLPHENIDATE, OPIATES, SALICYLATES

REPORT: **Benzoylecgonine detected**
Opiates detected
Antidepressants detected
Carisoprodol detected

SERUM DRUG SCREEN

INCLUDES: ANTICONVULSANTS, TRICYCLIC ANTIDEPRESSANTS

REPORT: **Antidepressants detected**

URINE DRUG SCREEN

INCLUDES: AMPHETAMINES, BARBITURATES, BENZODIAZEPINES, CANNABINOIDS, COCAINE/COCAINE METABOLITES, METHADONE, OPIATES, PHENCYCLIDINE

REPORT: **Benzoylecgonine detected**
Opiates detected
Benzodiazepines detected

DATE: 09/19/2013

Karen Virani 9-19-13
KANU VIRANI, M.D.
DEPUTY CHIEF MEDICAL EXAMINER

dmc

NMS LABS

NMS Labs
3701 Welsh Road, PO Box 433A, Willow Grove, PA 19090-0437
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e-mail: nms@nmslabs.com
Robert A. Middleberg, PhD, DABFT, DABCC-TC, Laboratory Director

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Toxicology Report

Report Issued 09/16/2013 13:01

To: **10062**
Oakland County Medical Examiner
Attn: Toxicology
1200 Telegraph Road
Pontiac, MI 48341

Patient Name	PELLOW, NATHAN
Patient ID	13-4171
Chain	11654965
Age	Not Given
Gender	Not Given
Workorder	13216045

Positive Findings:

Compound	Result	Units	Matrix Source
Cotinine	Positive	ng/mL	Heart Blood
Naloxone	Positive	ng/mL	Heart Blood
Morphine - Free	41	ng/mL	Heart Blood
Diphenhydramine	1000	ng/mL	Heart Blood
Doxylamine	140	ng/mL	Heart Blood
Meprobamate	1.5	mcg/mL	Heart Blood
Duloxetine	140	ng/mL	Heart Blood
Quetiapine	77	ng/mL	Heart Blood
Norbuprenorphine - Free	4.6	ng/mL	Heart Blood
Cyclobenzaprine	46	ng/mL	Heart Blood

See Detailed Findings section for additional information

Testing Requested:

Analysis Code	Description
8052B	Postmortem Toxicology - Expanded, Blood (Forensic)

Specimens Received:

ID	Tube/Container	Volume/ Mass	Collection Date/Time	Matrix Source	Miscellaneous Information
001	Gray Vial	4 mL	Not Given	Heart Blood	
002	Lavender Vial	9 mL	Not Given	Heart Blood	

All sample volumes/weights are approximations.

Specimens received on 09/05/2013.

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Workorder 13216045
Chain 11654965
Patient ID 13-4171

Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Cotinine	Positive	ng/mL	1000	001 - Heart Blood	LC/TOF-MS
Naloxone	Positive	ng/mL	1.0	001 - Heart Blood	LC/TOF-MS
Morphine - Free	41	ng/mL	10	002 - Heart Blood	GC/MS
Diphenhydramine	1000	ng/mL	50	002 - Heart Blood	GC
Doxylamine	140	ng/mL	50	002 - Heart Blood	GC
Meprobamate	1.5	mcg/mL	1.0	001 - Heart Blood	GC/MS
Duloxetine	140	ng/mL	12	001 - Heart Blood	LC-MS/MS
Quetiapine	77	ng/mL	20	001 - Heart Blood	LC-MS/MS
Norbuprenorphine - Free	4.6	ng/mL	1.0	001 - Heart Blood	LC-MS/MS
Cyclobenzaprine	46	ng/mL	5.0	001 - Heart Blood	GC

Other than the above findings, examination of the specimen(s) submitted did not reveal any positive findings of toxicological significance by procedures outlined in the accompanying Analysis Summary.

Reference Comments:

1. Cotinine (Nicotine Metabolite) - Heart Blood:

   Cotinine is a metabolite of nicotine and may be encountered in the fluids and tissues of an individual as a result of tobacco exposure.

   Anabasine is a natural product occurring in tobacco, but not in pharmaceutical nicotine and a separate test for anabasine in urine can be used to distinguish tobacco from pharmaceutical nicotine use.

   The reported qualitative result for this substance was based upon a single analysis only. If confirmation testing is required please contact the laboratory.

2. Cyclobenzaprine - Heart Blood:

   Cyclobenzaprine is a tricyclic compound, with central nervous system skeletal muscle relaxant effects. Its mechanism of action is not well understood; however, it does potentiate norepinephrine, has some anticholinergic effects, and has central nervous system depressant activity. It is generally used as an adjunct to rest and physical therapy in the treatment of painful musculoskeletal conditions. Norcyclobenzaprine is the demethylated metabolite of cyclobenzaprine.

   Plasma cyclobenzaprine concentrations of 20 - 30 ng/mL are required for skeletal muscle relaxant effects.

   Cyclobenzaprine overdose produces drowsiness, tachycardia, nausea, paresthesia, hypotension, convulsions, cardiac arrhythmias and coma. In two fatal overdose cases, blood concentrations averaged 500 ng/mL, other central nervous system depressants were also contributory in these cases.

3. Diphenhydramine (Benadryl®) - Heart Blood:

   Diphenhydramine is an antihistamine with sedative and anti-emetic effects. It is rapidly absorbed following oral administration; however, it is frequently given IV. Patients taking this medication are usually warned against the operation of complicated machinery, because of its strong sedative effects.

   Following a single 50 mg oral dose of diphenhydramine, peak plasma concentrations at 3 hr averaged 80 ng/mL. A reported steady-state diphenhydramine concentration is 300 ng/mL.

Reference Comments:

Signs and symptoms of acute diphenhydramine toxicity include tremor, seizures, fever, respiratory depression and cardiac arrhythmias. Reported blood levels in fatal overdose cases ranged from 8000 - 31000 ng/mL and in urine from 40000 - 64000 ng/mL.

Lidocaine interferes with diphenhydramine in this analysis. The presence of lidocaine will adversely affect the quantitation of diphenhydramine. If lidocaine is a potential interferent in this case, call the laboratory for alternate quantitative procedures.

4. Doxylamine (Unisom®) - Heart Blood:

Doxylamine is an antihistamine with sedative effects. It is sometimes used in the short-term relief of insomnia. It is also found as a constituent of cold preparations. The usual antihistamine dosage is 12.5 mg every 4 to 6 hrs.

Following an oral 25 mg dose of doxylamine, reported peak plasma concentrations averaged 99 ng/mL (range, 69 - 140 ng/mL). At therapeutic concentrations, the elimination half-life is approximately 10 hours.

In overdosage, doxylamine can produce sedation, respiratory depression and coma. Fatal blood doxylamine concentrations between 700 - 12000 ng/mL (mean, 6500 ng/mL) have been reported. However, more recently, cases of fatalities have been published with postmortem doxylamine concentrations of 22000 ng/mL and above.

5. Duloxetine (Cymbalta®) - Heart Blood:

Duloxetine is an antidepressant drug that is described as a 'balanced' inhibitor of both norepinephrine and serotonin neuronal reuptake. In addition to its use in major depressive disorder (MDD), duloxetine is indicated for use in the management of neuropathic pain associated with diabetic peripheral neuropathy.

Duloxetine is well absorbed after oral administration. There is a median 2-hour lag until absorption begins. The drug is highly bound to plasma proteins (greater than 95%). Duloxetine appears to be extensively metabolized in humans to form multiple oxidative and conjugated metabolites. All of the metabolites identified are pharmacologically inactive.

The mean elimination half-life of the drug is approximately 12 hours (range, 8 to 19 hours). Steady-state plasma concentrations are commonly achieved after 3 days of dosing with the drug.

Steady-state trough plasma concentrations were dose-related after 5 days of oral therapy and were reported as:
20 mg twice daily: 4 - 22 ng/mL
30 mg twice daily: 8 - 48 ng/mL
40 mg twice daily: 12 - 60 ng/mL

The more common adverse effects of the drug include dizziness, fatigue, sedation, insomnia, nausea, dry mouth, constipation, and decreased appetite.

6. Meprobamate (Carisoprodol Metabolite) - Heart Blood:

Meprobamate is a DEA Schedule IV sedative, antianxiety and muscle relaxant agent. The normal therapeutic adult dosage ranges from 200 to 800 mg and should not exceed 2400 mg daily. This compound is also the active metabolite of the skeletal muscle relaxant carisoprodol (Soma).

Following a single oral 400 mg dose, average plasma meprobamate concentrations of 7.7 mcg/mL at 2 hr, 4.4 mcg/mL at 8 hr and 1.6 mcg/mL at 24 hr. were reported. After ingestion of a 1600 mg dose, an average blood concentration of meprobamate of 24 mcg/mL was reported over a 1.5 hr. period.

Meprobamate produces central nervous system depression similar to barbiturates and has physical dependence addiction liability equal to that of barbiturates. Meprobamate is capable of producing an outward appearance of intoxication and derangement and impairment of alertness, judgment, sense of care and caution and nerve-muscle coordination. Sudden withdrawal of this drug can result in seizures and death.

Overdose with meprobamate results in stupor, coma, hypotension and respiratory depression with blood concentrations generally exceeding 50 mcg/mL. In fatal overdose cases, blood concentrations have been reported to range from 35 - 410 mcg/mL.

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Workorder 13216045
Chain 11654965
Patient ID 13-4171

Reference Comments:

7. Morphine - Free (Codeine Metabolite) - Heart Blood:

   Morphine is a DEA Schedule II narcotic analgesic. In analgesic therapy, it is usually encountered as the parent compound, however, it is also commonly found as the metabolite of codeine and heroin. In illicit preparations from which morphine may arise, codeine may be present as a contaminant. A large portion of the morphine is bound to the blood proteins or is conjugated; that which is not bound or conjugated is termed 'free morphine'. Hydromorphone is a reported metabolite of morphine.

   In general, free morphine is the active biologic agent. Morphine has diverse effects that may include analgesia, drowsiness, nausea and respiratory depression. 6-monoacetylmorphine (6-MAM) is the 6-monoacetylated form of morphine, which is pharmacologically active. It is commonly found as the result of heroin use.

   Intravenous administration of 10 mg morphine produced reported peak therapeutic blood levels of 60 ng/mL, which declined to 3 ng/mL after 36 hr. A single therapeutic 10 mg intramuscular injection produced peak blood levels of 70 ng/mL after 10 to 20 min, which declined to 10 ng/mL after 4 hr. In two reported fatalities, free morphine blood levels were reported as 70 and 350 ng/mL.

8. Naloxone - Heart Blood:

   Naloxone is a narcotic antagonist used to counter the central nervous system depression effects of opioids, including respiratory depression. It is also used for the diagnosis of suspected acute opioid overdosage. Naloxone is available as a 0.4 mg/mL solution of the hydrochloride for parenteral injection.

   Naloxone is also available in combination with buprenorphine (Suboxone®) for the treatment of opioid dependence. This combination is available in tablets of 2 mg buprenorphine with 0.5 mg naloxone or 8 mg buprenorphine with 2 mg of naloxone for sublingual administration.

   The reported qualitative result for this substance was based upon a single analysis only. If confirmation testing is required please contact the laboratory.

9. Norbuprenorphine - Free (Buprenorphine Metabolite) - Heart Blood:

   Norbuprenorphine is the primary metabolite of buprenorphine (BUP). Following a single dose of Suboxone® (a 4:1 ratio of buprenorphine and naloxone) mean maximum plasma norbuprenorphine concentrations (+/- 1 S.D.) were:

   4 mg BUP: 1 mg NAL: 0.83 +/- 0.27 ng/mL
   8 mg BUP: 2 mg NAL: 1.48 +/- 0.56 ng/mL
   16 mg BUP: 4 mg NAL: 3.50 +/- 1.39 ng/mL

10. Quetiapine (Seroquel®) - Heart Blood:

    Quetiapine is an antipsychotic compound approved by the FDA for the management of the manifestations of psychotic disorders, including schizophrenia. It is a structural analogue of clozapine that addresses the positive and negative symptoms of schizophrenia, but does so with few of the traditional side effects of conventional or other atypical antipsychotic medications.

    Steady-state peak (1.0 to 1.5 hr) plasma levels following a TID daily regimen:
    225 mg/day - 286 ng/mL
    450 mg/day - 598 ng/mL
    750 mg/day - 828 ng/mL
    The plasma half-life is approximately 6 hr.

    After an apparent quetiapine overdose, a postmortem blood concentration of 170000 ng/mL was reported. In a case of suicide with quetiapine and 4 other drugs, postmortem cardiac blood contained 49000 ng/mL of quetiapine.

Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded one (1) year from the date of this report; and generated data will be discarded five (5) years from the date the analyses were performed.

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Workorder 13216045
Chain 11654965
Patient ID 13-4171

Workorder 13216045 was electronically signed on 09/16/2013 12:14 by:

Susan B. Crookham

Susan Crookham,
Certifying Scientist

Analysis Summary and Reporting Limits:

Acode 50016B - Opiates - Free (Unconjugated) Confirmation, Blood (Forensic) - Heart Blood

-Analysis by Gas Chromatography/Mass Spectrometry (GC/MS) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
6-Monoacetylmorphine - Free	10 ng/mL	Hydromorphone - Free	10 ng/mL
Codeine - Free	10 ng/mL	Morphine - Free	10 ng/mL
Dihydrocodeine / Hydrocodol - Free	10 ng/mL	Oxycodone - Free	10 ng/mL
Hydrocodone - Free	10 ng/mL	Oxymorphone - Free	10 ng/mL

Acode 52017B - Carisoprodol and Metabolite Confirmation, Blood (Forensic) - Heart Blood

-Analysis by Gas Chromatography/Mass Spectrometry (GC/MS) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
Carisoprodol	0.20 mcg/mL	Meprobamate	1.0 mcg/mL

Acode 52036B - Duloxetine Confirmation, Blood (Forensic) - Heart Blood

-Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
Duloxetine	12 ng/mL		

Acode 52112B - Quetiapine Confirmation, Blood (Forensic) - Heart Blood

-Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
Quetiapine	20 ng/mL		

Acode 52407B - Opiates (Low Dose) - Free (Unconjugated) Confirmation, Blood (Forensic) - Heart Blood

-Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
Buprenorphine - Free	1.0 ng/mL	Naltrexone - Free	1.0 ng/mL
Butorphanol - Free	1.0 ng/mL	Norbuprenorphine - Free	1.0 ng/mL
Nalbuphine - Free	1.0 ng/mL		

Acode 52410B - GC Confirmation Set 1, Blood (Forensic) - Heart Blood

-Analysis by Gas Chromatography (GC) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
Amitriptyline	10 ng/mL	Brompheniramine	20 ng/mL
Amoxapine	10 ng/mL	Chlorpheniramine	10 ng/mL

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Workorder 13216045
Chain 11654965
Patient ID 13-4171

Analysis Summary and Reporting Limits:

Compound	Rpt. Limit	Compound	Rpt. Limit
Chlorpromazine	10 ng/mL	Mirtazapine	5.0 ng/mL
Clomipramine	10 ng/mL	Norfluoxetine	10 ng/mL
Desmethylclomipramine	10 ng/mL	Nortriptyline	10 ng/mL
Desmethyldoxepin	10 ng/mL	Pentazocine	10 ng/mL
Dextro / Levo Methorphan	5.0 ng/mL	Pheniramine	20 ng/mL
Diphenhydramine	50 ng/mL	Prochlorperazine	10 ng/mL
Doxepin	10 ng/mL	Promazine	30 ng/mL
Doxylamine	50 ng/mL	Trazodone	0.10 mcg/mL
Fluoxetine	10 ng/mL	Trifluoperazine	10 ng/mL
Hydroxyzine	10 ng/mL	Verapamil	10 ng/mL
Maprotiline	10 ng/mL		

Acode 52411B - GC Confirmation Set 2, Blood (Forensic) - Heart Blood

-Analysis by Gas Chromatography (GC) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
Cyclobenzaprine	5.0 ng/mL	Orphenadrine	50 ng/mL
Desipramine	10 ng/mL	Promethazine	30 ng/mL
Desmethyltrimipramine	10 ng/mL	Protriptyline	10 ng/mL
Fluphenazine Overdose	20 ng/mL	Pyrilamine	30 ng/mL
Imipramine	10 ng/mL	Thioridazine	100 ng/mL
Meperidine	0.020 mcg/mL	Tranylcypromine	10 ng/mL
Mesoridazine	100 ng/mL	Trimipramine	10 ng/mL
Normeperidine	0.010 mcg/mL	Triprolidine	30 ng/mL

Acode 8052B - Postmortem Toxicology - Expanded, Blood (Forensic) - Heart Blood

-Analysis by Enzyme-Linked Immunosorbent Assay (ELISA) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
Barbiturates	0.040 mcg/mL	Salicylates	120 mcg/mL
Cannabinoids	10 ng/mL		

-Analysis by Headspace Gas Chromatography (GC) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
Acetone	5.0 mg/dL	Isopropanol	5.0 mg/dL
Ethanol	10 mg/dL	Methanol	5.0 mg/dL

-Analysis by High Performance Liquid Chromatography/Time of Flight-Mass Spectrometry (LC/TOF-MS) for: The following is a general list of compound classes included in this screen. The detection of any specific analyte is concentration-dependent. Note, not all known analytes in each specified compound class are included. Some specific analytes outside these classes are also included. For a detailed list of all analytes and reporting limits, please contact NMS Labs.

Amphetamines, Anticonvulsants, Antidepressants, Antihistamines, Antipsychotic Agents, Benzodiazepines, CNS Stimulants, Cocaine and Metabolites, Hallucinogens, Hypnosedatives, Hypoglycemics, Muscle Relaxants, Non Steroidal Anti-Inflammatory Agents, Opiates and Opioids.